

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aeronautical Weekly in the World. Founded January, 1909.

Founder and Editor : STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 952. (No. 12, Vol. XIX.)

MARCH 24, 1927

Weekly, Price 6d.
Post free, 7d.

Flight

The Aircraft Engineer and Airships

Editorial Offices: 36, GREAT QUEEN STREET, KINGSWAY, W.C.2

Telephone: Gerrard 1828. Telegrams: Truditur, Westcent, London.

Annual Subscription Rates, Post Free:

United Kingdom .. 30s. 4d. Abroad .. 33s. 0d.*

* Foreign subscriptions must be remitted in British currency.

CONTENTS

Editorial Comment

"The Great Delusion"	169
Surveying Alaska from the Air	172
Royal Aero Club Official Notices	175
Airisms From The Four Winds	176
Air Estimates in Parliament	177
Light 'Plane Club Doings	178
Personals	179
Legal Intelligence	179
Correspondence	180
Royal Air Force	181
In Parliament	181
Company Doings	182

"FLIGHT" PHOTOGRAPHS.

To those desirous of obtaining copies of "Flight" Photographs, these can be supplied, enlarged or otherwise, upon application to Photo. Department, 36, Great Queen Street, W.C.2

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

1927	
Mar. 26	R.A.F. India Reunion Dinner, New Princes Restaurant.
Mar. 26	R.A.F. v. Army Rugby Match, Twickenham.
Mar. 29	R.Ae.C. Annual General Meeting
Mar. 31	"Recent Model Experiments in Aerodynamics." Mr. E. G. Richardson, before R.Ae.S.
Mar. 31	I.Ae.E. Dinner at Savoy Hotel.
April —	International Aero Exhibition, Copenhagen.
April 2	28 Sqdn. (R.A.F.) Old Boys' Association Social.
April 6	Inst.Ae.E. Visit to Works of De Havilland Aircraft Co., Ltd., Stag Lane Aerodrome, Edgware.
Apr. 15-18	Bournemouth Easter Races.
April 19	"Flying for Air Survey Photography." Capt. F. Tymms, M.C., before Inst. Ae.E.

INDEX FOR VOL. XVIII.

The Index for Vol. xviii of "Flight" (January to December, 1926) is now ready, and can be obtained from the Publishers, 36, Great Queen Street, Kingsway, W.C.2. Price 1s. per copy (1s. 1d. post free).

EDITORIAL COMMENT.

ALL the world is queer save thee and me, and even thee is a little queer." The fundamental truth contained in this saying is irresistibly brought to mind in reading "The Great Delusion," by "Neon," just published by Ernest Benn, Ltd., at 12s. 6d. The anonymous author has come to the conclusion that all the world is queer, and bases this conclusion upon evidence collected from a variety of sources which are set out in the 279 pages of the book.

"The Great Delusion"

From all the fuss that has been made over this book in the general press one might be led into the error of taking "The Great Delusion" much too seriously, which would be calculated to lend to the work an importance far in excess of that which it merits. The author has produced—at vast labour—a work of genius in that he (or she) has quite obviously taken infinite pains in collecting the evidence which shall damn—or is it dam?—for all eternity the air and all its works. But when one realises how absurdly easy it is to prove any case if one selects one-sided evidence with care and discrimination, the convincing tone of the book loses most of its effect. That the tone is convincing cannot be denied, and thus the book may do a certain amount of harm among those who are not in the habit of thinking for themselves. We all know the man who is such a convincing speaker, such a magnetic personality, that after half an hour with him we are sure that he is right. It is not until afterwards, when we get home and begin to analyse the arguments used, that we begin to wonder if after all he is right, although at the time his personality made us think he

MAPPING ALASKA FROM THE AIR

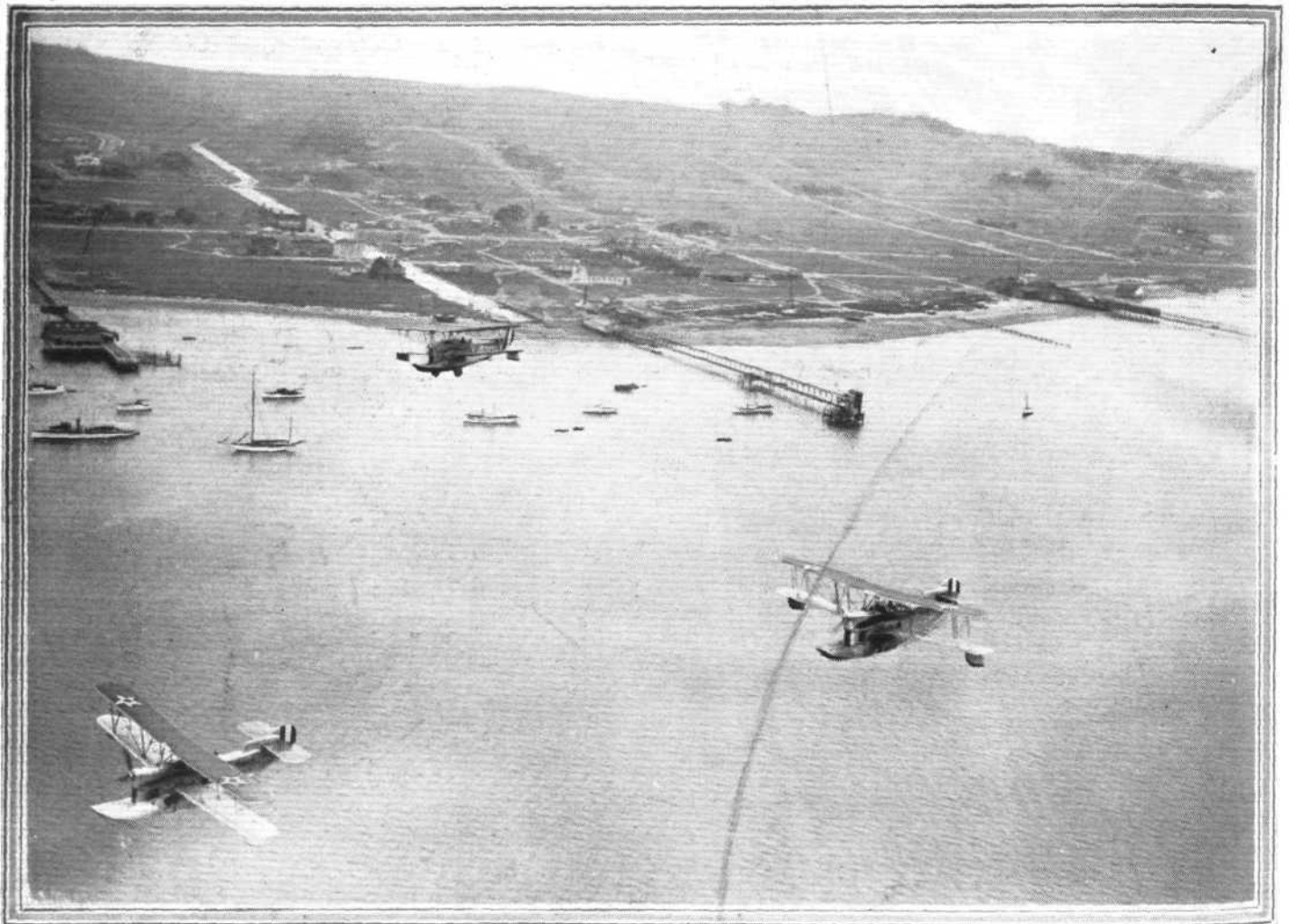
By JOHN L. VON BLON

THE 'planes of the United States Navy have just carried out a daring and important aerial survey in Alaska, mapping some 40,000 square miles of almost inaccessible territory from the air. Their mission was not to discover the strategical importance of this region from a military point of view, but to learn something of its industrial possibilities. The area concerned stretches for a distance of some 900 miles along the coast northward from the Indian village of Ketchikan, and is approximately 60 miles wide. It includes hundreds of islands as well as parts of the mainland.

To have surveyed this territory in the ordinary way would have occupied years and proved very arduous and costly. As it was, the whole region was accurately mapped in less than four months, and everything needful learned concerning its potential possibilities. The expedition was under the

ice fields of the mainland would have spelt death to the aviators. Happily there were no accidents, and the 'planes and aviators came through the trying ordeal with flying colours.

Only one day in every ten was suitable for actual mapping, because of heavy rains, low-hanging clouds and gales. The low suns of morning and afternoon interfered by casting long shadows, but in open localities clear "shots" were made as late as ten o'clock at night. Most of the mapping was done from an altitude of 10,000 ft., but near views were taken of the forests to ascertain the type of timber, thickness of growth, and so on, and in the same way snaps were taken of lakes and rivers in order to discover the best way of harnessing them. Many startling discoveries were made. The 'planes had not been long in the air before they discovered a



SURVEYING ALASKA FROM THE AIR : The three survey machines (Loening amphibians), starting from San Diego. Point Loma is in the background. U.S. Navy Official Photograph

charge of Lieut. B. H. Wyatt, a famous airman in the service of the United States Navy. He used the all-metal Loening amphibian 'planes. An old mine-sweeper, the *Gannet*, acted as tender to the 'planes, while the men were accommodated in a substantial wooden "house" built upon a 250-ton freight lighter, 100 ft. in length, which was towed from point to point as needed.

Not only were photographs taken of all the islands as well as the mainland, but close-up views were secured of the forests, rivers and lakes, as well as pictures of the international boundary. These latter are expected to dispose of the controversy between the United States and Canadian Governments concerning the boundary line. The work proved exciting, and was fraught with danger and demanded courage of a high order. A crash or forced landing in the densely-wooded interior of the rugged islands or on the vast glacial

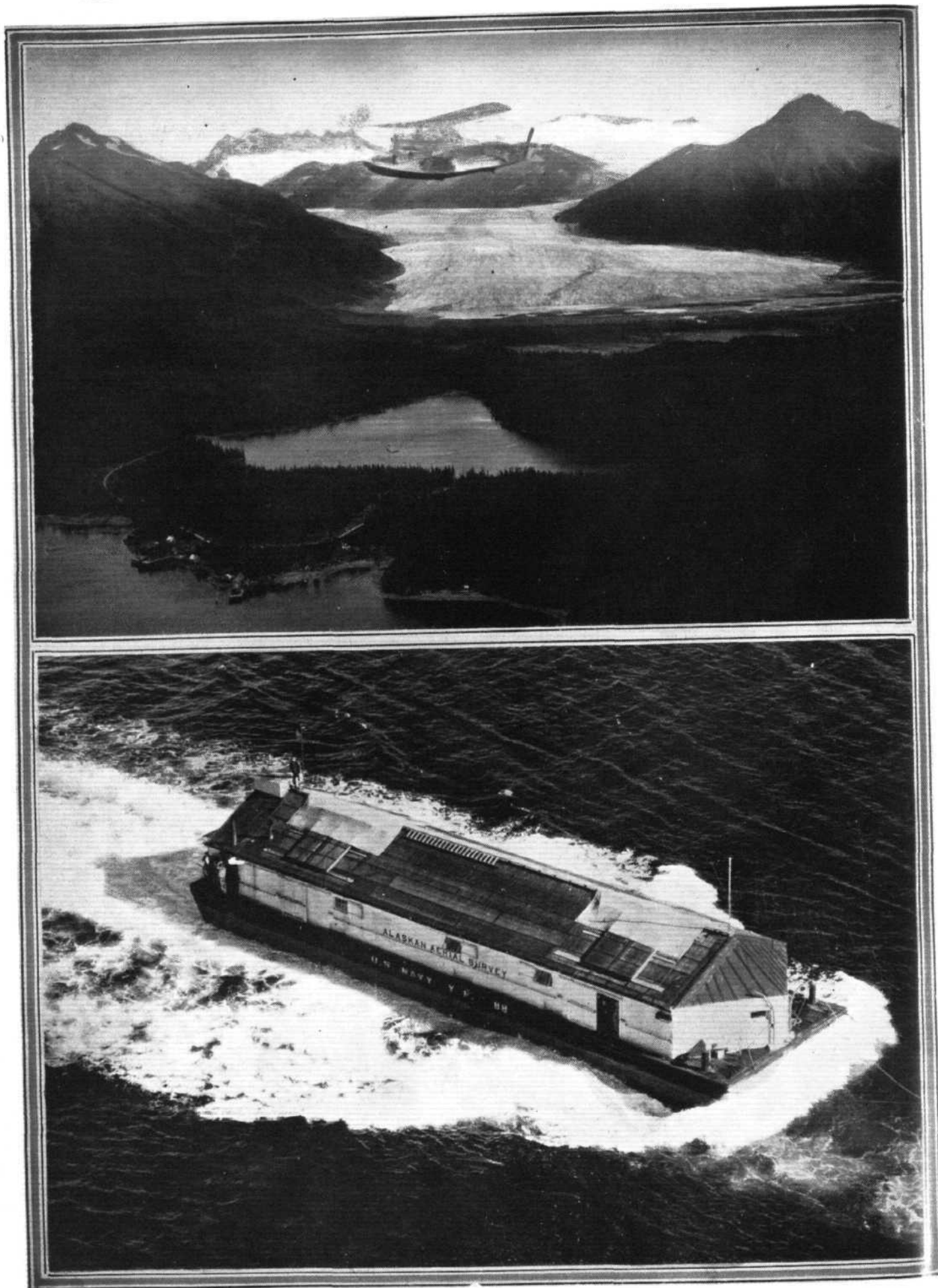
lake nine miles long and four to five miles wide at the back of Ketchikan, whose existence was unknown, even to the dwellers in the nearest settlements. It has been named "Grace," after Mrs. Coolidge, the mistress of White House.

As a result of the discovery of this lake, coupled with others, and certain waterfalls in the neighbourhood, arrangements are to be put in hand for the erection of an electric power station and pulp mills at Ketchikan. It is estimated that energy representing 100,000 h.p. can be obtained by harnessing the waters here, while all around them are vast forests of the finest spruce, pine and hemlock. Mr. C. H. Flory, who is in charge of the forests of Alaska, declares that 500 to 600 tons of paper could be turned out daily from mills at Ketchikan, for an almost indefinite period. Equally valuable timber and power resources were discovered on other islands, as well as at points on the mainland.



U.S. Navy Official Photographs

SURVEYING ALASKA FROM THE AIR : Above, a group of deep lakes north of Rudyerd Bay, on the mainland. Below, midsummer's floating ice on Le Conte Bay. The "bergs" look small, but many of them are as large as ships. An idea of the visibility obtaining may be formed when it is pointed out that the central peak is 50 miles distant. Note the vast forests.



U.S. Navy Official Photograph

SURVEYING ALASKA FROM THE AIR : The upper photograph shows one of the Loenings over Mendenhall Glacier at 9.45 p.m. This body of ice is a mile and a half wide. In the lower photograph is seen the floating base, 100 ft. long, which was towed for thousands of miles. It housed the entire personnel of the survey and served many other purposes.

Commenting on these aerial surveys Mr. Flory says: "I learned more about the forests of Alaska in a two-hours' flight I made in one of the 'planes than I ever was able to learn from my own years of observation and the records of those who preceded me. Many thousands of pounds will be saved the government departments in Alaska by these operations. Projects which ordinarily require a year for my department to survey were accomplished in an hour by the planes, while in the same flights they achieved other objects as well. So accurate are the pictures that every tree in the timber areas can be counted, timber suitable for mill use and for pulp can be segregated, and much of the work we are now doing at considerable cost eliminated." Another point of great value noted was this. So close generally is the stand of the trees that the sun cannot reach the soil, and rains keep it constantly wet. As a result reforestation would be a quick and perpetual process.

Of the three 'planes, two were employed for mapping and the third as a standby, ready at all times to go to the rescue in case of call, or to search should one fail to return, when due. Emergency rations and carrier pigeons were taken on every mapping flight, and each 'plane carried a pilot, navigator and photographer. The work is technical and exacting, and every man was busy every moment in the air. They had many thrills and perilous experiences.

What made flying difficult were the sudden winds, locally termed "willie waws," which blow down from the mountain tops with a velocity ranging from 50 to as much as 100 miles an hour. They usually spring up on clear days, and it is impossible to forecast them. One of the 'planes encountered one of these winds while taking oblique photographs at a comparatively low elevation over Le Conte Glacier. It was forced down to within a few feet of the ice, and being unable to rise had to skim along the top of the glacier for a distance of 15 miles and then for 5 miles across the bay, only escaping the countless small icebergs by a hair's breadth. The speed meter indicated 115 miles an hour, yet for 20 miles the "willie waw" bore the 'plane perilously low.

The highest climb made was that of Lieut. Wyatt, the officer in charge of the expedition, who went up to 14,400 ft. to obtain close-up photographs of the lofty Fairweather group

along the international boundary, 125 miles north-west of Juneau. Mt. Fairweather is 15,480 ft. high, and the adjacent ranges 8,000 to 14,000 ft. The approach had to be from the south-west and a 60-mile wind was driving from the north-west, resulting in violent down-bumps. Although the 'plane had been lightened as much as possible it could not be forced up higher than 14,400 ft. Then it struck a strong down current and the 'plane dropped to less than 200 ft. above the snow-covered jagged edges of the mountains. It was a narrow escape and in the jolts that occurred the camera was thrown against the side of the cockpit and smashed.

Much magnificent scenery was observed, including snow-capped peaks, mountain lakes, waterfalls and glaciers. From on high some of the bays, particularly those served by glacial streams, had a charm all their own. They were dotted with bergs and floating ice which to the airmen had the appearance of water lilies or stars in an inverted sky, the whole being framed by a black-green forest of brilliant luxuriance. Although the Alaskan coast is pitted with glaciers and the waters strewn with floating ice the temperature is certainly not Arctic, and in late September the gardens at Juneau and Skagway were full of bloom. The ship's cold-storage plant was supplied with ice cut out of small bergs from the Taku glacier.

As already stated, the expedition was in the field four months and constituted the largest aerial survey yet made by the air service of any government. Apart from the actual mapping of much hitherto unknown territory, hundreds of oblique views were made for the Lighthouse Service, for the Forest Department, to enable it to determine the quality, quantity and type of timber, for the Roads Department, and for the Bureau of Fisheries, which desired photographs of its hatcheries and contiguous lakes and streams with the object of extending its activities.

The whole enterprise of this Alaskan survey is a striking object lesson of the use to which military 'planes can be put in time of peace for the benefit of the country and the people generally. All told, the 'planes covered 50,000 miles, equivalent to twice around the globe at the Equator, and it is gratifying to record that not a single accident marred the venture.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Committee Meeting

A MEETING of the Committee was held on Wednesday, March 16, 1927, when there were present:—Lieut.-Col. Sir Francis K. McClean, A.F.C., in the Chair, Mr. Ernest C. Bucknall, Lieut.-Col. M. O. Darby, Wing-Commander T. O'B. Hubbard, M.C., A.F.C., Col. F. Lindsay Lloyd, C.M.G., C.B.E., Lieut.-Col. M. O'Gorman, C.B., Mr. F. Handley Page, C.B.E., Mr. T. O. M. Sopwith, C.B.E., and the Secretary.

Election of Members.—The following new Members were elected:—Marcel Victor Litton, Admiral Richard Fortescue Phillimore, Robert Stanley Luen, Pilot Officer John Mathew Hunter, Edmund Lawrence Debonnaire Moore, Edmund Kell Blyth, Tom Roberts Thomas, William John McDonough, Arthur James Brown, Leslie J. Irvin, Walter Lawrence Hope, Thomas Terrell, Pilot Officer Walter John Pickard, Gerald Merton, Flying Officer Christopher Clarkson.

Aviators' Certificates.—The following Aviators' Certificates were granted:—

- 8072 A. H. Bell, Newcastle Aero Club.
- 8073 K. V. Wright, London Aeroplane Club.
- 8074 Harold Bolas, Bristol Flying School.
- 8075 S. O. Bradshaw, London Aeroplane Club.
- 8076 R. L. Brooke, De Havilland Flying School.
- 8077 J. de la Cierva, Hampshire Aeroplane Club.
- 8078 S. P. Birley, Lancashire Aero Club.
- 8079 L. S. Dawson, Yorkshire Aeroplane Club.
- 8080 Arthur Mann, Yorkshire Aeroplane Club.
- 8081 G. O. Wood, Yorkshire Aeroplane Club.
- 8082 R. L. Wade, Lancashire Aero Club.

8083 The Hon. Geoffrey Cunliffe, De Havilland Flying School.

Britannia Trophy.—The award of the Britannia Trophy for the year 1926 was deferred.

Racing Committee.—The Report of the Racing Committee held on March 3, 1927, was received and adopted. The report included the recommendations for the King's Cup Race, Bournemouth Easter Flying Meeting, and the Aerial Derby.

Committee.—Mr. E. C. Bucknall expressed his desire to retire from the Committee. In accepting the resignation, which was done with much regret, the Committee expressed their warmest appreciation of the services rendered to the Club by Mr. Bucknall, who had served almost continuously on several Club Committees for over 20 years.

Major H. A. Petre, D.S.O., was co-opted to the Committee to fill the vacancy.

Sub-Committees.—The reports of the Finance and House Committees were received and adopted.

Schneider Race.—The Secretary reported that three entries had been made on behalf of Great Britain, and that the acknowledgment of the same had been received from the Aero Club of Italy.

Offices: THE ROYAL AERO CLUB,

3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary.

AIRISMS

FROM THE FOUR WINDS

Pinedo's Progress

THE Marchese de Pinedo continued his journey up through the centre of South America on March 16, when he flew in his Savoia S.55 seaplane from Asuncion, Paraguay, to San Luiz de Caceres, Brazil. The greater part of this 625-mile flight was over jungles and swamps, infested with half-savage Indians and wild animals—so a forced landing would have been far from pleasant. On March 20 he flew on to Manaos, Brazil, landing en route at Guajara Mirim. At Manaos he received a remarkably enthusiastic reception, and on the following day he proceeded over the Amazon jungle to Para, Brazil, a distance of 865 miles. It is reported that the "Santa Maria's" engines have suffered considerably during these later stages, and will have to be thoroughly overhauled.

The Portuguese World Flight

MAJ. SARAMENTO BEIRES successfully accomplished the flight across the South Atlantic on March 16-17. He left the Bissagos Islands, off Portuguese Guinea, in the evening, but before the Dornier-Wal would take off one of his three companions had to be left behind. The island of Fernando Noronha was safely reached next morning, and on March 18 they proceeded to Port Natal on the mainland, and to Pernambuco on March 20. Here Maj. Beires had the misfortune to damage an airscrew, and will have to wait at Pernambuco until a new one arrives from Buenos Aires.

Sir Alan Cobham Home

ON his return from New York on March 18, Sir Alan Cobham said that a lot of private flying was being done in America, and there were something like 1,500 private machines. They were used largely for commercial purposes. Some factories were turning out a machine a day, and they were being sold at prices ranging from £400 to £1,000 to the public. No Government restrictions were imposed. Very little passenger flying was done, but many air mail services existed which were "boosted" a good deal by their Post Office.

"City of Jerusalem" Air Liner

ON March 18, Field-Marshal Lord Plumer, the High Commissioner, christened one of the de Havilland "Hercules" air liners of the Cairo-Basra air route "City of Jerusalem," at Kalendia aerodrome on the Nablus road near Ramallah, before a large and representative gathering. As in the case recently when King Fuad named another "Hercules" in Egypt, so Lord Plumer uncovered a name-plate and freed a flight of pigeons, after which a representative of Imperial Airways presented him with a silver model of the machine. Lord Plumer, his staff, Government officials, leading citizens, and others were then taken for trial flights over Jerusalem.

A R.A.F. Home Tour

Four daylight bombing machines, probably the Hawker "Horsleys," will make a tour of some of the bigger cities in this country next month, for the benefit of public interest. Exhibitions of formation flying and other manoeuvres will be carried out before the landing for inspection. The proposed programme is as follows: Birmingham, April 19; Manchester, April 20; Leeds, April 21; Liverpool, April 22; Bristol, April 23; and Nottingham, April 25.

A New Canadian Air Survey Starts

ON March 21 two Fokker monoplanes, "City of Winnipeg" and "City of Toronto," part of the fleet of the Western Canadian Airways, Ltd., left their base at Hudson, near New Liskeard, Northern Ontario, to fly over 850 miles of snow and ice-bound country between there and Fort Churchill in connection with the survey for an alternative terminus for the Hudson Bay Railway. Under the contract with the company the monoplanes must carry during the next few weeks 14 Government engineers with 5 tons of equipment, including dynamite, across the barren wastes between Cache Lake, on the Hudson Bay Railway, and Fort Churchill. The intention is to fly across country to the mouth of the Berens River, on Lake Winnipeg, and then to follow the lake north to Norway House, where they will spend the night and refuel. The equipment includes snowshoes, eiderdown, sleeping bags, oil heaters and numerous other articles. Mr. Oaks, manager of Western Canadian Airways, Ltd., has left New Jersey with a third Fokker monoplane, and is expected to reach Hudson within a few days.

Director of Civil Aviation in India

THE new Director of Civil Aviation in India, under the scheme organised by the Indian Government for the development of air routes in the East, is to be Lieut.-Colonel F. C. Shelmerdine, O.B.E., who recently went to Egypt to act as the Air Ministry Superintendent for the Cairo-Karachi service. His successor in this post will be Capt. Tymms, M.C., who has been acting as senior technical assistant to Lieut.-Colonel I. A. E. Edwards, the chief technical adviser to the Director of Civil Aviation.

Berlin-Vienna Air Line Opened

THE new Berlin-Dresden-Prague-Vienna air line was opened on March 2. A three-engined Junkers machine left Tempelhof aerodrome at 9.15 a.m., and the first machine from Vienna landed at Tempelhof at 3.30 p.m. Until the conclusion of the German-Czechoslovak Air Convention recently removed the political obstacles to air traffic between the two countries, the only air connection between Berlin and Vienna was via Munich, where the passenger had to stay overnight. The whole journey now takes 5½ hours, including two stops of 15 mins. in Dresden and Prague. After March 21 a machine will leave Berlin at 9.50 a.m. and reach Prague at 12.30 and Vienna at 3.20. The fare between Berlin and Prague is 45 m. (£2 5s.) and between Berlin and Vienna, 80 m. (£4). When the summer time-table comes into force there will be a through service from Malmö to Vienna via Copenhagen and Berlin. This is one of the basic European air routes decided on by the International Air Traffic Association at its last meeting in Vienna. Plans are under consideration for other extensions across Czechoslovakia of the Central European network of airways linking up, for instance, Breslau and Munich via Prague.

New Lufthansa Night Air Services

FOLLOWING the success of their experimental night air services of last year in Germany, the Lufthansa propose to inaugurate a number of Trans-continental night services. New machines for the purpose are being built, one of which, the Junkers Commercial monoplane, we described and illustrated in our last issue. An early morning service between London and Germany is included in the programme. From May 1 a three-engined German liner will leave Croydon daily at 4 a.m. to fly to Amsterdam, Hanover, and Berlin, with connections to Scandinavia and Russia, and a machine with similar connections will arrive at Croydon from Germany at 8.30 a.m. daily.

Famous German Pilot Killed

HERR KUST UNGEWITTER, the well-known German pilot, was killed at the Staaken aerodrome on March 14 while testing a new Albatross biplane.

Viceroy of India's Air Tour

AT the conclusion of the Budget Session of the Indian Legislature at the end of this month, the Viceroy and Lady Irwin will start on a tour of Kashmir, thence to Quetta, where a great durbar will be held. From Quetta the Viceroy will fly to Chaman and Fort Sandeman on the North-West Frontier.

An International Register for Aircraft

AT the annual meeting of the British Corporation for the Survey and Registry of Shipping, Mr. Robert Clark, who presided, announced that the British Corporation, the American Bureau, the Japanese Corporation, the Germanischer Lloyd, and the Norske Veritas had agreed to join the Bureau Veritas in the formation of an international registry of aircraft, as well as of national classification rules which would have international acceptance, and which would solve the problem of international surveys.

Round Europe Air Tours

EUROPEAN tours by air for a period of seven days, in which most of the main European capitals would be visited with time for sight-seeing in each, are proposed for the coming summer to start from Croydon. The proposed route would be Croydon—Paris—Zurich—Munich—Vienna—Warsaw—Prague—Leipzig—Berlin—Amsterdam, then down the Belgian coast and across the Channel home. Four different air lines would be patronised in the course of the tour, belonging to Britain, Switzerland, Poland and Germany, and there would be no night travelling. The cost for the week's tour would be £35, which would include motor-car transport to and from aerodromes.

AIR ESTIMATES IN PARLIAMENT

MR. PONSONBY (Brightside—Lab.) moved the reduction of the Air Force by 32,000 men, and in this proposal he was speaking for himself and not representing the Labour Party officially. He said that he might have chosen this amendment on the Army or Navy, but he chose the Air Force instead because it was especially deadly, of recent creation, one on which scientific research was concentrating all its genius, and which was, comparatively speaking, cheaper, and, therefore, infinitely more dangerous than the others. Their desire was to bring forward for serious consideration the idea of reaching disarmament by general international consent along the path of disarmament by example. He was taking the standpoint of abolition, and he wanted it taken more seriously than it had been taken hitherto. He was prepared to admit that the first purpose of armaments was to give security against enemy attack. The second purpose was that armaments gave security against war. That he absolutely denied. Continuing, Mr. Ponsonby said that the existence of armaments was a menace to civilisation. He knew that disarmament could not be done with a stroke of the pen; it was a process that would take time; but he was convinced that the first nation that had the courage to do it would quickly be followed by others. He was in agreement with the recent proposal to bring this matter of the Air Force before the Disarmament Conference, but he wanted to press for more drastic action. Instead of laying down certain principles and asking experts to carry them out, we had asked the experts of the three Services to assemble and make definitions.

CAPT. CUNNINGHAM REID said that as the hon. Member was asking for complete disarmament, why did his party not attempt that policy when they had the opportunity three years ago? Until every nation was prepared to carry out complete disarmament they in the House would be failing in their responsibility if they did not prepare for any contingency that might imperil the lives of the British people. He would say deliberately that he would like to see the Air Force doubled and the cost deducted from the other two Services. He was convinced that we would come to a redistribution of the Services sooner or later, for the simple reason that it would mean a decrease of national expenditure and an increase of defensive efficiency. This was all the more emphasised when we considered that the Air Force was the only Service where the expenditure was of use to us commercially.

LIEUT.-COMDR. BURNEY said that air developments depended on our own efforts to a much higher degree than in the case of sea developments, where a country could be fortunate in possessing harbours. We could see that Germany was realising this from the fact that she was spending over £10,000,000 sterling this year on civil aviation. The official figures only showed £2,300,000, but that was the national contribution, and did not include the contributions from several States such as Bavaria, Wurtemberg, Prussia, etc. The present Air Force in this country had not more than a fortnight's supply of machines for a time of war; and it was upon that basis that he thought the present Estimate disclosed its inherent weakness. If it was true that the country depended upon the rate at which we could expand, it was difficult to imagine how, with an expenditure of only £4,000,000 on the aircraft industry, we could expect that possibility of expansion. More money spent on civil aviation would give greater reserve than we had to-day. He suggested the Air Minister might consider setting up a Royal Commission to inquire whether drastic curtailment could not be made in expenditure upon military aviation and the sum saved devoted to civil aviation.

SIR SAMUEL HOARE said that he claimed to be just as sincere in his desire to see a restriction and a limitation of armaments as any of the opposing hon. members might wish for. The real trouble today was the feeling of suspicion and distrust that still existed in Europe, although he believed it was diminishing. Until it was got rid of there would never be any advance in the direction of reducing armaments. One effect of disarmament if the amendment was carried would be the defencelessness of the country at a vital point—London. He thought we could point with great credit to our record in respect of showing an example towards disarmament since 1919. At the end of the war we had the greatest air force in Europe and we immediately began to reduce it. As recently as 1922, when he first became connected with air matters, he found no Air Force in the position to undertake the home defence of the country. But what was the result of this fine example? Was it followed by any other great power in Europe? He was not making criticism of foreign countries, but the fact was self-evident that although we reduced our Air Force every other power went on with their programmes, and consequently we were in duty bound to put ourselves in a more defensible position. The question of a greater concentration on civil aviation and less on military aviation had been enquired into at great length in 1922 and 1923, and it was then decided that however attractive might be the former, the first necessity was the creation of the home defence. His desire had been to adopt a policy which eventually would make civil flying an economical proposition independent of subsidies. We should see the kind of development he wished to see, and that was a mercantile aviation as the military reserve, although that would not come at the moment. He had always thought that in the matter of air disarmament the necessity was to concentrate on the centre of the problem, namely the danger of a sudden air attack upon the great centres of Europe.

The amendment was not carried.

As the adviser to the Air Ministry on the matter, Lieut.-Commander Burney answered certain questions raised with regard to the two airships being built. He said the problem was this: first on the question of the Goldbeater skins, they could be purchased anywhere. Fabric, similarly. The technical skill came in the fixing of the skins to the fabric. That was the difficulty with which we were confronted. Previously, in this country, they were fixed with a rubber solution which was placed between the two. It had been found on experiment that there was a possibility of electrical conditions arising which would make a spark and consequently create the risk of fire. The Germans used for this fixing a special glue, and, if we had to send out two of these experimental ships into the tropics it would be unwise to endanger the lives of 150 men. He was not prepared to take responsibility for that

risk unless he knew for certain that the bags inserted in them had been given definite and prolonged trials before that took place. He could assure them that every consideration to the possibilities of placing these orders in this country was given.

Replying to a long detailed criticism of the airships contract by Mr. Rose, the Air Minister said that they had taken every conceivable scientific advice and were assured by this that he might look forward to seeing these ships in the air, flying safely from one end of the Empire to the other, and performing a very useful purpose from the point of view of Imperial communication and Imperial defence. He said that the weights given by him had been said to be impossible to give that result; but there again he had to choose the advice of the scientists. The building of these ships was a great experiment, but he believed that the money would be found to be very well spent.

Replying to a suggestion of a subsidy for the Norwich Light Aeroplane Club, made by Capt. Fairfax, the Air Minister said that unfortunately the money they had for subsidies for the clubs was limited and they could not grant any to any more clubs this year; but he could assure the hon. member that the Norwich Club would not be forgotten when the lists of clubs were made up next year.

MR. GILLET asked the total value of the 21 contracts of £50,000 or over that had been placed with contractors without competitive tenders; and what was the nature of goods so purchased.

SIR P. SASSOON said the answer to the first part of the question was approximately £1,750,000; the second, that the contracts were for the supply of new aircraft and engines, overhaul of engines, and supply of aero-engine spares.

MR. THURTELL asked how many of the 28 squadrons of the Home Defence Force were bombing squadrons.

SIR P. SASSOON replied 16 squadrons.

AIR MATTERS IN THE NAVAL ESTIMATES

Certain references to air matters were made in the House of Commons when the Navy Estimates were considered on March 14.

MR. AMMON said he noticed an item of £882,000 for the Air Arm in the Estimates, or an increase of £201,000. That again raised the controversy on the control of the combined air services. Was it not time that we had a decision as to whether there was going to be a co-ordination of the air forces, or whether we were going to have two different services as rivals in the same field?

MR. HILTON YOUNG, speaking on the relationships between ships and the air, said could anyone say what would be the effect of the development of aircraft and aeroplanes in combination with submarines upon naval strategy and tactics? He doubted it; and he gave that as an illustration of how everything was in the melting pot.

LIEUT.-COMMANDER KENWORTHY said that we were building up an Air Force, and that should do something to take the place of the Navy.

REAR-ADMIRAL BEAMISH said that to introduce a completely separate arm like the Fleet Air Arm to the Navy was only to court disaster and difficulty.

LIEUT.-COMMANDER BURNEY observed that there would have to be international laws for the air in time of war as there was for the sea.

LIEUT.-COLONEL HEADLAM (Parliamentary Secretary to the Admiralty), answering for the Government, said that our naval air strength was by no means excessive, and in some respects not up to the one-Power standard. We were gradually building up an Air Arm in conjunction with the Navy, and it would, he hoped, in time be worthy of the Navy to which it belonged. At present it was in its infancy. He could not impress upon the House too much that the money now being spent upon the naval Air Arm was absolutely essential if the Fleet was to be in an efficient position to meet fleets which were provided with far stronger Air Arms. He did not contemplate any particular case of it having to meet any fleet in a hostile sense, but in these days, unless we had an effective Air Arm, the Fleet would be very ill-equipped and utterly unable to do its functions properly. At the present moment it had 116 aircraft. There were 18 torpedo bombers, 51 "spotter" and reconnaissance machines, 36 fighters ship-borne and 11 naval co-operating aircraft shore-based. He pointed out, merely by way of comparison, that the present strength of the United States was a total of 560 aircraft, 305 being of the first line; and they aimed at 338 aircraft carried afloat in 1931. We proposed to increase our ship-borne aircraft this year by 30 machines, bringing our total from 116 to 146, and by the end of 1931 we hoped to have 195 aircraft afloat. That was not an ambitious programme, but it seemed it would be sufficient for the purposes of the Navy. Meanwhile the relations between the Air Force and Navy were of the best, and our naval officers were being trained as observers and pilots. He knew of various opinions with regard to the advisability of the Air Service and Navy being under different heads, but it seemed that the system which had been adopted would end satisfactorily, and we should be able, by utilising the Fleet Air Arm in the way in which it was intended to utilise it with the Navy, to establish that perfect accord which was necessary for the carrying on of the two Services when they were acting together.

LIEUT.-COMMANDER KENWORTHY said we were told that the number of aeroplanes this year, when the 30 new machines were completed, would be 146 as compared with 305 in the first line of the United States Navy. He did not like to think that with this vast expenditure of money we were behind any naval Power in equipment; and in aircraft he thought we certainly were. We were concentrating on the policy of aircraft carriers, and one of their disadvantages was that they had to turn head to wind to launch an aeroplane and so lose a lot of ground. The Americans, on the other hand, had concentrated on the catapult system of launching aircraft, and in many cases it was not necessary to turn head to wind. He also observed that the defence of ships against aircraft was a very grave problem of the future.



At St. James's Palace, March 15

His Majesty the King held a Levee at St. James's Palace on March 15, at which the following were amongst those present:—Group Capt. R. P. Ross, Aide-de-Camp in Waiting; Lieut. de Vaisseau Bos, French Air Attaché; Capt. T. Toyoda, Japanese Air Attaché; Col. E. Mossberg, Swedish Air Attaché; Maj. H. R. Harmon, American Assistant Military Attaché for Aviation. Amongst those presented to His Majesty were Sqdn.-Ldr. B. Baker, D.S.O., M.C., A.F.C.; Wing-Commander V. Brown, Flight-Lieut.

E. Burton, Sqdn.-Ldr. the Hon. R. Cochrane, A.F.C., Flight-Lieut. N. Desoer, Air-Commodore E. Ludlow-Hewitt, C.M.G., D.S.O., M.C., Air-Commodore F. Holt, C.M.G., D.S.O., Air Vice-Marshal C. Longcroft, C.B., C.M.G., D.S.O., A.F.C., Sqdn.-Ldr. R. Peck, O.B.E., Wing-Commander A. Steele-Perkins, O.B.E., Group Capt. R. Pink, C.B.E., Group Capt. R. Ross, D.S.O., A.F.C., A.D.C., Flight-Lieut. A. Sanders, Air Vice-Marshal Sir O. Swann, K.C.B., C.B.E., Sqdn.-Ldr. C. Tucker, Wing-Commander F. Unwin, O.B.E., Flight-Lieut. J. Walser, M.C., etc.

LIGHT 'PLANE CLUB DOINGS

London Aeroplane Club

Flying Time.—The flying time for the week ending March 20 was 82 hrs. 10 mins. This total exceeds all previous records for a week's flying put up by the London Aeroplane Club. On March 20, 22 hrs. 45 mins. flying was recorded, and here again this is the Club's best record for one day's flying.

Aviators' Certificates.—During the week the following members passed their tests for Aviators' certificates: T. W. Eady, C. R. Campkin, D. H. P. Esler, and J. H. Saffery.

Pilot Instructors.—Capt. F. G. M. Sparks, Capt. A. S. White, Capt. R. W. Reeve, Capt. C. D. Barnard.

Dual Instruction.—G. Black, F. Clarkson, H. F. Greenland, A. E. Mines, C. H. Swan, L. G. Sykes, E. Symmons, Miss Fletcher, G. M. Randall, Miss Spooner, T. R. Richards, C. Miesegaes, L. Martin, Dr. Cook, Mrs. Cook, Capt. H. Spooner, H. Lang, G. C. Bonner, H. O. Gugenheim, J. H. Saffery, E. J. B. King, G. H. Saxon Mills, J. J. Hofer, L. W. Gibbens, H. M. Samuelson, R. Drysdale Smith, D. Hewett, M. P. Susman, E. R. Wilson, J. G. Crammond, A. J. Richardson, D. A. Wilson, R. Sanders-Clark, G. N. Howe, T. S. Keith, J. D. Simson, R. Leighton Crawford, H. Wickett, R. P. Cooper, A. J. Mulder.

Solo Flights.—Sqn.-Ldr. M. E. A. Wright, R. Sanders-Clark, L. J. C. Mitchell, K. V. Wright, E. E. Stammers, O. J. Tapper, G. Terrell, G. H. Craig, Maj. K. M. Beaumont, D. H. P. Esler, J. H. Saffery, H. Spooner, M. L. Bramson, G. C. Bonner, R. C. Presland, A. G. D. Alderson, R. P. Cooper, T. W. Eady, R. P. Malcolm, E. S. Brough, A. R. Ogston, J. J. Hofer, H. Solomon, Miss O'Brien, C. R. Campkin, J. G. Crammond.

Passenger Flights.—W. Tapper, C. H. Swan, A. E. Mines, Mrs. Woods Humphrey, R. E. Penny, O. S. Barros, D. A. Wilson, Miss Johnson, D. F. Wilson, E. Symonds, S. W. Smith, E. G. Parks.

The Hampshire Aeroplane Club

REPORT for week ending March 18.—Our instructor returned from Brough on Tuesday, but very high winds prevented any flying during the latter part of the week.

However, Thomson managed to give 2 hrs. 45 mins. instruction, and soloists put in 50 mins., making a total of 3 hrs. 35 mins. flying time.

The following members had instruction:—Lieut. Heinemann, R.N., 55 mins.; A. R. Mellor, 50 mins.; Kerry, 15 mins.; Stanford (our assistant ground engineer, who is sufficiently enthusiastic about flying to want to learn to fly), 15 mins.; and the Hon. H. R. Grosvenor 30 mins.

(The Hon. Grosvenor is a distinct favourite in some circles for the Grand National, so here is wishing him the best of luck on Friday.)

The soloists were Senor de la Cierva, 25 mins.; the Hon. Grosvenor, 10 mins.; Keeping, 10 mins.; and Bowen, 5 mins.

Bowen is evidently a man of fixed habits, for he never misses his weekly five minutes.

Lancashire Aero Club

REPORT for week ending March 19.—Total flying time for the week, 27 hrs., made up as follows:—Dual with Mr. Brown: Messrs. Nelson, 1 hr. 10 mins.; Musgrave, 1 hr. 5 mins.; Caldecott, 1 hr.; Miss Emery, 40 mins.; Miss Brown, 40 mins.; Messrs. Gattrell, 40 mins.; Keay, 30 mins.; Harper, 25 mins.; Forshaw, Davidson, Collinson, Shiers and Jenkinson, 20 mins. each; Dickinson, Crosthwaite, Birley, MacNair and Anderson, 15 mins. each; Goodyear, 10 mins.

Dual with Mr. Cantrill: Messrs. Mulder, 50 mins.; Wade, 45 mins.; Michelson, 30 mins.

Solo: Messrs. Slater, 1 hr. 40 mins.; Twemlow, 1 hr. 15 mins.; Costa, 45 mins.; Lacayo, 35 mins.; Birley, 20 mins.

Joy-rides.—With Mr. Brown: Messrs. Murrell, 3 hrs. 15 mins. (photography); Hubbard and Smith, 15 mins. each; Miss Clancy, 15 mins.; Messrs. Leeming and Haynes, 10 mins. each. With Mr. Cantrill: Messrs. Murrell, 55 mins. (photography); Beaven, 15 mins. With Mr. Scholes: Messrs. Smith, 35 mins.; Williams, 20 mins.; Mills, 10 mins. With Mr. Costa: Messrs. Torres, 35 mins.; Soares, 20 mins. With Mr. Lacayo: Miss Mitchell, 30 mins.; Mr. Brookes, 15 mins. With Mr. Goodfellow: Mr. Morley, 20 mins.; Miss Bodenham, 10 mins. With Mr. Leeming: Miss Shiers, 20 mins.

There are three stumbling blocks in the course of this club—either the weather is damnable, or the members fail to attend, or the Devil enters into the machines. Last week the weather, except for stiffish breezes, was perfect, crowds of members turned up, and immediately, to celebrate the first decent week of the year, every darned machine went out of commission for one reason or another, except the Renault-Avro. On the last day of the week one Moth returned to the fray, to make up for which the Avro had to be laid up on Sunday night for engine overhaul, having done her time.

One turns for comfort to the simple, yet beautiful words of Prof. Einstein: "Inertia, gravitation, and the metrical behaviour of bodies and clocks are thus reduced to the single quality of a field, and this field in turn is made dependent on the bodies (generalisation of Newton's law of gravity, or the corresponding field law, as formulated by Poisson). Space and time are so divested, not of their reality, but of their causal absoluteness (absoluteness-influencing—that is, not influenced), which Newton was compelled to attribute to them to give expression to the laws then known. The generalised

law of inertia takes over the rôle of Newton's law of motion. From this short characterisation it will be clear how the elements of Newton's theory passed over into the general theory of relativity, the three defects above mentioned being at the same time overcome." Ab-so-lutely.

Midland Aero Club, Ltd.

REPORT for week ending March 19.—The total flying time was 10 hrs. 32 mins.

The following members were given dual instruction by Capt. McDonough: A. Ellison, R. L. Jackson, J. C. Rowlands, H. Beamish, F. Coxhill, S. H. Smith.

The following "A" pilots made solo flights: E. R. King, E. J. Brighton, J. Brinton, H. J. Willis.

Mr. Brighton also made two flights with passengers. Test flights occupied 56 mins.

A high wind made it impossible to give instruction on Sunday.

Norfolk and Norwich Aero Club

So far, a considerable number of members have already been enrolled for the new Norfolk and Norwich Aero Club, the formation of which was proposed last month by the Lord Mayor of Norwich. Progress has also been made towards securing the gift of a second machine. As previously reported in *FLIGHT*, one D.H. "Moth" has already been given to the Club, by two Norwich residents—Mr. J. Hardy and Mr. H. N. Holmes, but a second machine is essential for the successful operation of the Club.

Unfortunately there is no prospect of securing any Government subsidy during the next financial year, but it is gratifying to learn that the Secretary of State for Air, in answer to a question in the House by Capt. Fairfax said that the Norwich Club would not be forgotten when the list of Clubs to be given financial aid next year is made up.

Vigorous efforts, therefore, are now being made to obtain financial aid from leading East Anglians, and it is hoped that the necessary support will be forthcoming, thus enabling the Club to proceed "unsubsidised."

The Newcastle-upon-Tyne Aero Club

FLYING report for week ending March 20. Total flying time, 16 hrs. 30 mins. Dual, 5 hrs. 35 mins., solo (training), 5 hrs. 35 mins., "A" pilots, 3 hrs. 45 mins., joyrides 1 hr. 35 mins.

The following members flew under instruction with Mr. Parkinson: Mr. A. H. Wilson, Mr. D. Wilson, Mr. Middleton, Mrs. Heslop, Mr. Welch, Mr. Rasmussen, Mr. Miesegaes.

Solo, training.—Miss Leathart, Mr. Bainbridge, Mr. Mathews, Mr. Turnbull.

"A" pilots.—Dr. Dixon, with Mr. H. Ellis, and Mr. Hitchin.

Mr. R. N. Bullock, Mr. R. N. Thompson, Mr. E. Ellis, Mr. A. Bell.

Mr. Baxter Ellis with Mr. Morgan, Mr. C. Thompson with Mrs. Heslop.

Passengers with Mr. Parkinson.—Miss Slade. Advanced dual with Mr.

Parkinson, Mr. Turnbull, Mr. Mathews and Mr. R. N. Thompson.

Mr. and Mrs. Jack Hylton visited the aerodrome during the week with

Mr. and Mrs. Parry. Mr. and Mrs. Hylton, Mr. and Mrs. Parry, and members

of the band flew with Mr. Parkinson.

Mrs. Hylton and Mrs. Parry asked for and enjoyed a complete programme

of stunts. This is the second occasion upon which Mr. and Mrs. Hylton have

fown at the Aerodrome.

Lord Ossulston has visited the aerodrome, by air, on numerous occasions,

as he does almost every week, his home being within 30 minutes' flight from

the aerodrome.

Mr. H. D. Mathews completed all the tests for his licence during the week,

putting up a very good show both as regards flights and landings.

Mr. Irving visited the aerodrome on Saturday and Sunday, inspecting the wreckage of the machine which broke up with him in it recently. He is making excellent progress now. His arm is encased in plaster of paris, which is useful for him to strike matches on.

Yorkshire Aeroplane Club

REPORT for the week ending March 20.—Total flying time for the week, 11 hrs. 55 mins., consisting of: Solo, 4 hrs. 35 mins.; Dual instruction, 6 hrs. 45 mins.; pleasure flights, 20 mins.; tests, 15 mins. In all 32 flights were made.

Messrs. Carter, M. B. Lax, Mann, Norway, Dawson and Wood flew solo and Messrs. Wilson, Yeomans, Oglesby and Batcock received dual instruction.

On Tuesday Mr. Beezer, the Club's ground engineer, went over to Brough and proceeded to strip the "Avro" which is being lent to the Club by the North Sea Company. It was inspected and passed the same day and on Wednesday F/O. A. G. Loton flew it over to Sherburn and handed it over to the Club. On Saturday Capt. West took it up for a trial flight.

On Sunday afternoon, Mr. Kittle a member of the London Club, landed at Sherburn in his own "Moth" after a trip of 2 hrs. 20 mins. from Stag Lane. He intended to fly over to Harrogate to pay a call, but as time was short finally decided to postpone the attempt and flew straight back to London.

Mr. Wilson has been making good progress and will be ready to fly solo after a little more dual instruction.

that he still had sufficient fuel on board for another 5 hours' flying.

A Light Plane Race for the Midlands

THE Royal Aero Club is at present considering the proposals for an air race next July, between the various light 'plane clubs, for the Air League Challenge Cup, over a course of about 210 miles, probably a circuit embracing Manchester, Leeds, Birmingham, Manchester.

An Isle of Man Air Race.

PROPOSALS have been made to hold an air race next June from Manchester to the Isle of Man, followed by an air pageant on the Island.

Australian (N.S.W.) Aero Club

THE New South Wales section of the Australian Aero Club has reduced the charge of solo flying for its members from £2 10s. to £1 10s. per hour. Non-members, however, will be charged £2 per 15 minutes for passenger flights.

Fokker-Jupiter's Fine Flight

A FOKKER monoplane belonging to the K.L.M. made a fine flight last week when it covered the distance from Rotterdam to Marseilles in approximately seven hours. Leaving Rotterdam at 2.46 a.m., Marseilles was reached at 9.42 a.m., in time to connect with the steamer "Patria" en route to the Dutch East Indies, and which had left Rotterdam a week previously. The distance from Rotterdam to Marseilles is 1,000 km. (620 miles), and was flown without landing, the machine carrying three passengers and a quantity of mails, in addition to its crew. The engine used was a Gnome-Rhone "Jupiter" of new type, rated at 560 h.p.

A Junkers World's Record

ON March 16 a Junkers J.33, fitted with 320 h.p. Junkers L-5 engine, established a new world's record for duration with useful load of 500 kg. (1,100 lb.). Starting from the Dessau aerodrome, in the dark, at 4 a.m., the pilot, Schnäbele, circled around the district until 8 p.m., when he landed at Dessau, having been in the air for 16 hours. It is stated

Personals

Married

JACK BLACKMORE, R.A.F., only son of Mr. and Mrs. Frederick William Blackmore, of Forest Hill, S.E., was married in London, on March 12, to MARJORIE VIVIENNE WILSON-SAUNDERS, youngest daughter of Mrs. and the late Joshua Wilson-Saunders, of Brook House, Witlesham, Suffolk, niece of Admiral Sir Edmond John Warre Slade, K.C.I.E., K.C.V.O., and Lady Slade.

FLIGHT-LIEUTENANT JOHN LAWRENCE KIRBY, R.A.F., elder son of Mr. and Mrs. Wilson Kirby, of Holme House, Bishopthorpe Road, York, was married on February 28, at the Church of Our Lady of Victories, Kensington, to MISS AGNES MAY CHISHOLM, youngest daughter of the late Mr. and Mrs. Edward Chisholm, and step-daughter of Mrs. Edward Chisholm, of Morar, Nairn. Flight-Lieutenant L. G. Paget was best man. The reception was held at 6, Phillimore Gardens. The bride and bridegroom subsequently left for a motor tour in the South and West of England.

WILLIAM IVAN NORMAN STRONG, R.A.F., son of Ernest Sidney Strong, Rawal Pindi, Punjab, India, was married on March 9, in London, to MARTHA WRIGHT RUPPRECHT daughter of the late Mr. and Mrs. Webster Wright, of Upper Montclair, New Jersey, U.S.A.

To be Married

The engagement is announced between FLIGHT-LIEUT. CUTHBERT J. S. DEARLOVE, R.A.F., son of Mr. and Mrs. G. A. Dearlove, of Cardiff, and CHRISTINE, only daughter of Mr. and Mrs. P. J. GARRATT, of Horris Bank, Newbury.

A marriage has been arranged, and will take place on April 21, between FLIGHT-LIEUT. PHILIP STUART JACKSON-TAYLOR, R.A.F., only surviving son of Mr. B. P. Jackson-Taylor and the late Mrs. Jackson-Taylor, of Hereford, and

ELISABETH SERENA, youngest daughter of Canon and Mrs. J. COOKE-YARBOROUGH, of 1, Hans Street, S.W.1.

A marriage has been arranged, and will take place quietly in London on May 25, between SQUADRON LEADER RALPH TOWLERTON LEATHER, A.F.C., R.A.F., elder son of Colonel Gerard F. T. Leather and Mrs. Leather, of Middleton Hall, Belford, Northumberland, and LILY, widow of CAPTAIN DONALD S. LAURIE, O.B.E., R.E.

The engagement is announced between FLIGHT-LIEUT. CHARLES ARTHUR LINDUP, R.A.F., Medical Service, elder son of the late Mr. Arthur Edward Lindup and of Mrs. William Freeman, of Avonbank, Sutton, Surrey, and Miss GLADYS REFFELL, daughter of the late Mr. Raymond Reffell and Mrs. Reffell, of Wraysbury, Bucks.

The engagement is announced between SQUADRON-LEADER L. J. MACLEAN, R.A.F., son of the late Loudoun Francis MacLean, C.I.E., and Mrs. MacLean, of 9, Longfield Road, Ealing, and NANCY, daughter of the late ALEXANDER PATRICK CAMERON and Mrs. Cameron, of Ardsheal, Kentallen, Argyll.

The engagement is announced between FLIGHT-LIEUT. PERCY ERIC MAITLAND, A.F.C., R.A.F., eldest son of Surgeon-Capt. P. E. Maitland, R.N. (retired), of Victoria Park Road, Exeter, and ALISON MARY, eldest daughter of LIEUT.-COL. H. W. KETTLEWELL, late King's Shropshire L.I., of Dibden House, Hythe, Hampshire.

Items

The death occurred at Bucharest, on January 26, 1927, of Major REGINALD ADDENBROOKE-PROUT, M.C., O.B.E., Légion d'Honneur (R.A.F., retired).

On February 22, 1927; at a nursing home in Edinburgh, the death occurred of ROBERT WILLIAM HOGARTH, C.E., late Commander, R.N.A.S., of 59, Campden-hill Court, London.

LEGAL INTELLIGENCE

Armstrong Siddeley Motors v. Courtney

CAPT. COURTNEY, the test pilot, consented to judgment for the plaintiffs on the claim and counter-claim in the action in which Armstrong Siddeley Motors, Ltd., of Coventry, sued the defendant for £347 1s. 8d.—the price of a motor-car, goods sold to him by the plaintiffs, and moneys paid by them on his behalf. Capt. Courtney, who was employed by the plaintiffs from 1922 until 1925 as test pilot, had admitted the claim, but counter-claimed £290, the value of another motor-car which he said the plaintiffs had presented to him as part remuneration for his service in winning the King's Cup air race in 1923, and had subsequently sold for him. He had further claimed £352 for commission and damages for alleged wrongful dismissal.

Mr. Singleton, K.C., and Mr. L. R. Lipsett appeared for the plaintiff; Lord Halsbury, K.C., and Mr. Gordon Alchin for the defendant.

When the case proceeded on March 17, Lord Halsbury said that since Friday he had had a certain communication from Capt. Courtney, who took full responsibility for saying that he now no longer desired to proceed with the case. That being so, there had to be, with the consent of the defendant, judgment for the plaintiffs on the claim and counter-claim, with costs.

It was only fair to the plaintiffs, however, that Capt. Courtney should go into the witness-box and answer certain questions which counsel for the plaintiffs would put to him. Capt. Courtney then went into the witness box.

Mr. Singleton: I understand, Capt. Courtney, that you wish to withdraw the suggestions which you made against the honesty of Mr. Siddeley and Maj. Green, chief aeronautical designer, during your examination or cross-examination?

Capt. Courtney: Yes, I did not wish to make a charge, and anything I said which might have appeared to make such a charge I am more than anxious to withdraw.

His Lordship: That comes from a very gallant gentleman, and it does him great credit.

Mr. Singleton said that he was glad that it was no longer necessary to pursue the matter further. Suggestions had been made against Mr. Siddeley and Maj. Green with regard to the letter in which it was said that Maj. Green had asked Capt. Courtney to take a little more care in wording his reports so that his remarks would not give the Air Ministry

an exaggerated idea of the defects of the plaintiff's machines. Whatever the result of the case might have been, said Mr. Singleton, he would have asked that that part of the case should have been expressly dealt with and he would have asked, in justice to Mr. Siddeley and Maj. Green, that they should have had an opportunity of going into the witness-box to meet the charge. His Lordship, however, had heard the very frank withdrawal by Capt. Courtney of the suggestions he had made. It was, therefore, unnecessary to call them. It was sufficient to say that Maj. Green's letter spoke for itself, and that there was no foundation whatever for the suggestions which had been made.

The jury were accordingly discharged, and judgment was entered for the plaintiffs on the claim and counter-claim, with costs.

■ ■ ■ ■ ■

Great Yarmouth, R.N.A.S. and R.A.F. Air Station

WE wish to draw our readers attention to the following communication we have received from Lieut. C. F. Snowden Gamble regarding the preparation of a book on the history of Great Yarmouth Air Station and trust it may catch the eye of any who may be able and willing to render assistance in the matter:—

"At the request of many of my one-time fellow officers, I am preparing a history of the activities, both previous to and during the War, of the then Royal Naval and Royal Air Force station at Great Yarmouth; and I should be, therefore, grateful for the loan of any material, documents, letters, photographs, etc. Every care will be taken of any such matter, and it will be returned to the donors as soon as possible."

This book should be quite an interesting one, as it will deal with much matter that has not yet been published. The historical section (Air Branch) of the Committee of Imperial Defence are rendering every assistance to the author, who already has a guarantee fund for its publication, and it is probable that it will be issued for general sale.

The Royal Air Force Memorial Fund

THE usual meeting of the Grants Sub-Committee of the Fund was held at Idlesleigh House on March 10. Mr. W. S. Field was in the chair, and the other member of the committee present was Mrs. L. M. K. Pratt-Barlow, O.B.E. The committee considered in all 16 cases, and made grants to the amount of £109 3s. 6d.

CORRESPONDENCE

The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.

"AERIAL OARS"

[2155] In reference to your article dealing with balloon jumping, we certainly resent your remarks, "the paddles were intended, etc.—but were a failure." The only reason that the "aerial oars" were not able to be used to their full advantage, was, as you correctly state, insufficiently buoyant condition of the balloon, owing to escape of gas.

We maintain our claim, that, if the operator of the balloon has a gravity pull of 2 lbs. to earth, a force of 6 lbs. can be exercised comfortably, by means of the "oars," the 6 lbs. being the net force, and 8 lbs. the gross force applied. We, therefore, beg to point out that, providing a force greater than the actual gravity force is obtainable, the "oars" will be sufficient to prolong, shorten or sustain the balloon jump, and the force will even be sufficient to keep the balloon at a desired altitude, an item very desirous, in our opinion, for a safe application of this sport.

We do not claim to travel against a wind, by means of the "aerial oars."

We would be pleased to see the above details, published in your Journal, and prevent us from asking for your apology, for your condemning article of a first impartial test under unfavourable conditions.

Both your published photographs show Mr. Palmer, as the operator.

JULES E. PALMER

Andover, March 21, 1927.

[We still fail to see the utility of the "aerial oars." A very slight up-current or down-current would impart to the balloon movements far in excess of anything which could be overcome by the most vigorous use of the "oars."—Ed.]

"THE GREAT DELUSION"

[2156] A great deal of interest has been created by the publication of the book by "Neon," entitled "The Great Delusion"—a book decrying aviation in general.

Having now had an opportunity of reading this publication, I thought you would be interested in one or two points raised in it of which I have particular knowledge.

On page 194 there is a specific reference to the Napier Company; in setting out the number of people required to build aeroplanes and aero engines, "Neon" quotes from "American Hearings" the fact that the Napier Company require 1,700 men to produce 15 aero engines in one month.

But the author does not state the date of this, nor that in addition to aero engines, the Napier Company, up to 1924, were building motor cars as well.

If he had troubled to obtain real facts as showing the advance that has been made in aero-engine construction in the last few years, he would have found that the Napier Company employed in 1925-26 1,600 men and produced 50 complete engines in one month, in addition to which large numbers of spares were manufactured, equivalent to a further 15 engines per month. Therefore the Napier Company could produce from their factory at Acton, with 1,600 men, 65 Napier "Lion" engines per month, when they are required.

Then, when referring to the splendid flight of Commandante Franco from Spain to Buenos Aires when the South Atlantic Ocean was flown non-stop for the first time, he decries this flight from the point of view that Franco did not fly back, but he has not troubled to discover the reason Franco did not return by air. We had some interest in the flight, as Franco used Napier engines, and I can inform "Neon" as an absolute fact that the reason Franco did not return by air was not that the machine was not capable of the flight, but that he was ordered by his Government to hand the machine over to the Argentine Government as a present, and return by boat.

As he had to present the machine to the Argentine Government it will be obvious that he could not possibly have flown back with it.

He also refers in a deprecatory manner to that splendid flight by four Royal Air Force machines each fitted with a Napier engine from Cairo to Cape Town, back to Cairo, and thence to England.

He compares the time taken with that of a tramp steamer, but again he deludes his readers by omitting to tell them the flight was not made to enable them to get from one spot to another as quickly as possible, but was carried out to survey the possibilities of the district as an air route.

After reading the book one can gather why the author prefers to remain anonymous, and having paid 12s. 6d. for it, one can also understand where the great delusion occurs.

The criticisms which this book calls for will no doubt prove the finest advertisement aviation has ever received.

H. T. VANE,

Managing Director,

D. NAPIER AND SON, LTD.

Acton,

March 22, 1927.

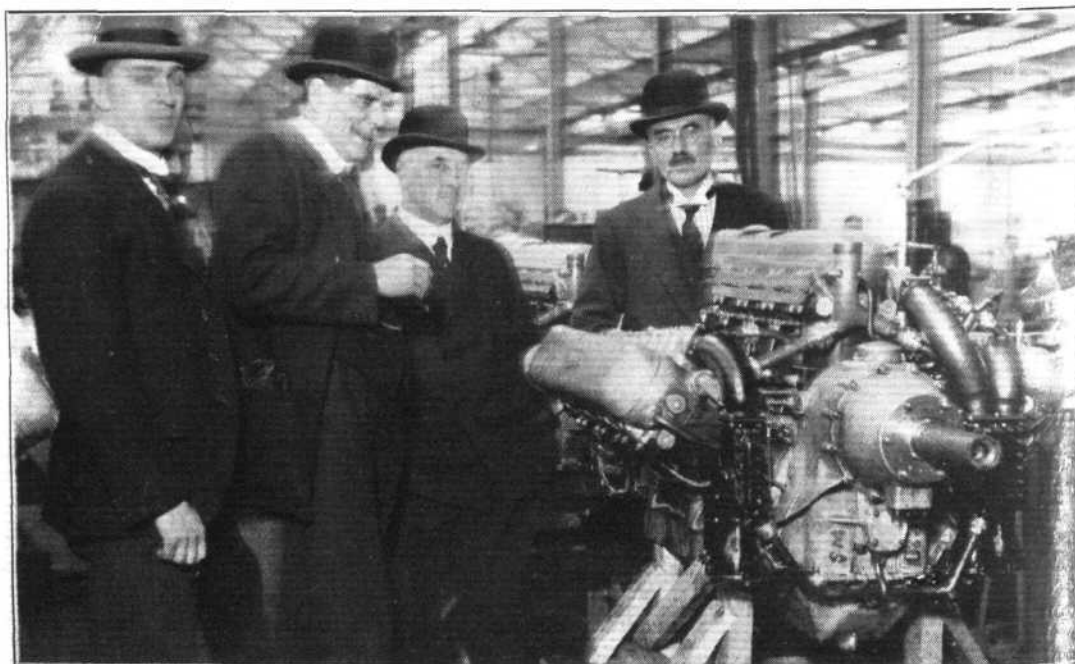
Aero Golfing Society

THE Winter meeting was held at Sunningdale on March 17, for the Challenge Cup presented by Sir Samuel Instone. The leading scores were:—C. R. Fairey, 94, less 18 = 76; C. E. Ruault, 79, less 3 = 76; P. Barry, 86, less 9 = 77; H. E. Perrin, 92 less 14 = 78; G. F. Roberts, 81 less 2 = 79.

C. R. Fairey and C. E. Ruault will play off the tie for the Challenge Cup.

The Four-Ball Bogey Foursomes resulted as follows:—Commander W. Briggs and Lieut.-Col. W. A. Bristow, 4 up; Lieut.-Col. J. T. C. Moore-Brabazon and General A. C. Critchley, 3 up.

Marshal of the Air Force, Sir Hugh Trenchard, paid a visit to the Napier Works on March 2, and also inspected the Experimental Department. Our picture shows Sir Hugh (second from left) inspecting one of the "Lions," together with Mr. G. Pate, Director and Chief Engineer; Mr. H. T. Vane, Managing Director; and Mr. H. A. Allen, Works Manager.



THE ROYAL AIR FORCE

London Gazette, March 15, 1927.

General Duties Branch

The following Pilot Officers are promoted to rank of Flying Officer:—
J. A. P. Harrison, T. H. Carr, J. G. D. Armour (Jan. 30); S. F. Prince, G. H. Walker, S. J. Gilbert, P. E. Grenfell (Feb. 18).

The following are seconded for duty with the British Naval Mission to Greece (March 15):—Wing Commander C. H. K. Edmonds, D.S.O., O.B.E., Squadron Leader J. C. Brooke, D.S.C. Flying Officer W. F. A. Preston (Lieut., R.A.) is seconded for a further year's duty with the R.A.F. (March 14); Flight-Lieut. A. W. Symington, M.C., is restored to full pay from half-pay (March 14).

The following Flying Officers are transferred to the Reserve (March 15):—
Class A.—T. W. G. Cattell, B. L. Young. Class C.—E. G. Whinney.
Squadron Leader D. Cloete, M.C., A.F.C., is placed on the retired list at his own request (March 16); Flying Officer I. O'B. MacGregor (Lieut., R.A.) relinquishes his temp. commission on return to Army duty (March 14).

Medical Branch

A. L. St. A. McClosky is granted a short service commission as a Flying Officer, for three years on active list, with effect from and with seniority of Feb. 2, and is seconded for civil employment at the Princess Alice Memorial

Hospital, Eastbourne, from that date to March 1 inclusive. R. Thorpe is granted a short service commn. as a Flying Officer, for three years on active list, with effect from and with seniority of March 2. Flight-Lieut. V. R. Smith is promoted to rank of Squadron Leader (March 12). Flying Officer D. B. Smith, M.B., is promoted to rank of Flight-Lieut. (March 19). Temp. Lieut. P. M. Margand (General List, Army, Dental Surgeon) is granted a temp. commn. as a Flying Officer on attachment to R.A.F. (March 1). He will continue to receive emoluments from Army sources.

Reserve of Air Force Officers

The following relinquish their commissions on completion of service:—
Flight-Lieut.—L. E. Taylor, M.B.E. (March 9). Flying Officers.—H. A. V. Kirk, H. Marsden, F. H. Pidgeon, J. A. Shaw (March 11). Flying Officer C. E. Stuart relinquishes his commission on account of ill-health, and is permitted to retain his rank (March 16).

Auxiliary Air Force

General Duties Branch

The following to be Pilot Officer:—No. 605 County of Warwick (Bombing) Squadron.—J. F. C. Brinton (March 15).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Wing-Commander C. H. B. Blount, O.B.E., M.C., to Air Ministry, Directorate of Operations and Intelligence, for Air Staff duties; 19.4.27.

Squadron-Leader A. S. Maskell, to H.Q., Iraq; 27.2.27.

Flight-Lieutenants: F. L. Luxmoore, D.F.C., to No. 1 Sqdn., Tangmere; 21.3.27. E. G. Gibbons, D.F.C., to No. 19 Sqdn., Duxford; 16.3.27. G. H. Martingell, A.F.C., to No. 502 Sqdn., Aldergrove; 27.3.27.

Flying Officers: G. G. Mobsby, to No. 1 Sch. of Tech. Training (Appren-

tices), Halton; 20.3.27. J. H. Woodin, to No. 47 Sqdn., Egypt; 4.3.27. L. A. Eggesfield, to No. 208 Sqdn., Egypt; 2.3.27.

Pilot Officer T. M. Abraham, to No. 2 Flying Training Sch., Digby; 5.3.27.

Stores Branch

Flight-Lieutenants: T. J. Organ, to No. 4 Stores Depot, Ickenham; 14.3.27. G. Baker, to Station H.Q., Birmham Newton; 22.2.27.

Medical Branch

Flying Officers: M. J. Marren, M.B., to Home Aircraft Depot, Henlow; 20.3.27. C. W. Coffey, to R.A.F. Station, Worthy Down; 4.5.27.

IN PARLIAMENT

Parachutes

COL. DAY, on March 9, asked the Secretary of State for Air whether all pilots are now given a complete course of instruction in the use of the parachute; and if separate parachutes are fitted on all aeroplanes for pilots and mechanics?

Sir Samuel Hoare: The answer to the first part of the question is in the affirmative. As regards the second, the policy is to provide a parachute for every pilot, observer, or other member of the crew of an aircraft while on flying duty; and effect is being given, and to a large extent has already been given, to this policy throughout the Royal Air Force.

Airship and Balloon Pilots

MR. DALTON on March 14 asked the Secretary of State for Air how many airship and balloon pilots have been trained in the British Empire during the last seven years?

Sir Samuel Hoare: Statistics for the whole of the British Empire are not available; the number of civil airship and balloon pilots' licences issued in this country during the period referred to was 23.

R.A.F. Stores and Accountant Officers

MR. W. BAKER asked the Secretary of State for Air if he will consider the desirability of staffing the stores and accountant branches of the Royal Air Force with civilians; and what flying duties are done by the wing-commanders, squadron-leaders, flight-lieutenants, flying officers and pilot officers, numbering 358, employed in these branches?

Sir S. Hoare: As regards the first part of the question, stores and accountant officers form an integral part of Royal Air Force units in peace and war, and any general replacement of them by civilians is impracticable. In a limited number of posts at home it has been found that civilians can be advantageously employed, and in these cases substitution has been effected. The question of possible further substitution is periodically reviewed. As regards the second part, the officers referred to are not required to undertake flying duties.

Invalidity Pensions

MR. HORE-BELISHA asked the Secretary of State for Air how many men were invalidated from the Service in 1926, and how many of these were denied pensions on the ground of non-attributability; how many appealed to the Air Ministry against the original decision; and in how many cases the decision was modified?

Sir S. Hoare: The answer to the first part of the question is that 263 airmen were invalidated in 1926, and of these 230 were refused pension on the ground of non-attributability. As regards the second and third parts, there were 35 appeals against the original decision, and in six of these cases the appeal was allowed, but as in three of the six cases the degree of disablement was under 20 per cent., the appellants became eligible only for increased gratuity and not for pension.

Irish Forces

MR. LEES-SMITH asked the Secretary of State for War what is the expenditure on British forces and Indian forces, respectively, incurred in 1926 in the financial year 1926-27?

Sir S. Hoare: I have been asked to reply. The provision made in the Estimates, 1926, for the forces referred to is:—

Royal Air Force	£ 2,594,900
British Army	268,000
Indian Forces	250,000

Figures of actual expenditure will not be available for several months, but will be less than the estimate.

Civil Aviation and Light Aeroplanes

MR. G. HARVEY on March 16 asked the Secretary of State for Air whether the civil aviation authorities have tested any other type of light aeroplane than the de Havilland Moth; and, if so, with what result?

Sir S. Hoare: Yes, sir; 20 other types of light aeroplanes have been tested at various times and have received certificates of airworthiness.

Mr. Harvey: Is my right hon. friend aware that some of the other makers consider that they are not getting a fair chance?

Sir S. Hoare: I cannot imagine what is the reason for that, if they think so. If my hon. friend will draw my attention to any specific case, I will certainly look into it.

Flying Boats

COLONEL DAY, on March 18, asked the Secretary of State for Air how many flying boats will be completed in 1927; when it is expected the flying boats will make their first cruise as a self-contained unit in Eastern waters; and what will be the complete building and fitting-up cost of a flying boat for this cruise?

Sir S. Hoare: As regards the first part of the question, about 17 flying boats of all types are expected to be delivered during 1927, including those for use by the flight which is to operate in Far Eastern waters. As regards the second part, the present intention is that the first cruise shall take place in 1928. To reply to the last part would involve a disclosure of contract prices, which is contrary to established practice.

Recruits and Rejections

MR. HORE-BELISHA asked the Secretary of State for Air how many men present themselves on an average each month for recruitment in His Majesty's Air Force; and how many are rejected, and for what principal reasons?

Sir S. Hoare: The total number of men who presented themselves for recruitment in the calendar year 1926 was 1,028. Of these, 258 were rejected on medical grounds and 391 on other grounds such as educational unfitness or age. The principal causes of rejection on medical grounds were dental defects, deformity of feet, heart disease, poor physique, respiratory diseases, defective vision and ear diseases.

Air Defence

MR. AMMON, on March 21, asked the Under-Secretary of State for India whether, in view of the change that has come over the problem of Indian defence as a result of the advent of the air arm, and seeing that the geographical position of India makes it possible to be the flying centre of the East, he is prepared to recommend the Government of India to throw open this army of defence in both commissioned and non-commissioned ranks to suitable Indians?

Earl WINTERTON: There is no Indian Air Force to the commissioned and non-commissioned ranks of which suitable Indians could be admitted, the squadrons in India being units of the Royal Air Force—a purely British Service, the composition of which it is for His Majesty's Government to decide.

Prague International Aero Exhibition

LIEUT.-COMMANDER KENWORTHY asked the Secretary of State for Air what steps are being taken to ensure the adequate exhibition of British aeroplanes and accessories, etc., at the International Aero Exhibition at Prague next June; how many British firms are exhibiting; and whether a representative of the Air Ministry is visiting, or has visited, Prague with a view to arranging for the exhibition of British machines and the assistance of British companies in so doing?

Sir Philip Sassoon: I am sorry to say that there will be no British aircraft exhibit at Prague. The aircraft industry has definitely decided not to take part in the exhibition, and I am afraid that to arrange for participation at Government expense would be out of the question in the present financial stringency.

COMPANY DOINGS

Handley Page, Ltd.

At a general meeting of the preference shareholders of Handley Page, Ltd., on March 17, Mr. S. R. Worley, F.C.A. (the chairman) presided. The chairman pointed out that it was a meeting of preference shareholders only, and would be followed by an extraordinary general meeting of the company. Their scheme, briefly, was that the preference shares should be reduced to a nominal value of 8s. per share, carrying the right to a preferential non-cumulative dividend of 10 per cent.; shareholders were to have the right to attend all meetings of the company, and to have one vote for one share on a poll; on liquidation, a prior right in any distribution of capital up to £1 per share. The ordinary shares, of which there were issued 150,000, were to be reduced to a nominal value of 1s. per share. The effect of this would be that the new issued capital of the company would stand at £206,644, divided into 497,860 preference shares of 8s. each, £199,144; 150,000 ordinary shares of 1s. each, £150,000; together, £349,144. This was a writing off from the present capital of £441,216, of which reduction the ordinary shares would have contributed £142,500. On a capital of £206,644 the directors had to be reasonably assured that the company on December 31, 1926, possessed assets which represented this figure. He gave the approximate figures that would appear in the balance sheet if the resolution was passed and the Court approved the scheme. Their remaining freehold land, the portion of the factory they were occupying (160,000 sq. ft.), plant and machinery, loose tools, office furniture, etc., would stand at about £100,000. Cash to be received from the sale of a portion of the property not included above, £12,500; stocks, works in progress and sundry debtors, £35,800; shares in other companies, £5,000; cash at bankers and in hand, £16,941; patent rights, £75,000. That made a total of £245,241. Their liabilities to trade and other creditors amounted to about £38,000, which left them £207,241, as against an issued capital of £206,644. He said that one good feature of their scheme was that, contrary to the somewhat usual custom in such reconstructions, they were not asking the shareholders to find any cash.

Mr. F. Handley Page, C.B.E., seconded the resolution and, after a brief discussion, it was put to the meeting and carried, with one dissentient.

An extraordinary general meeting was then held for the purpose of considering and, if thought fit, passing the resolutions of the scheme, and these, proposed by the chairman, were seconded by Mr. Handley Page and carried unanimously.

D. Napier & Son, Ltd.

The general meeting of D. Napier and Son, Ltd., was held on March 16 at Acton Vale, when Mr. H. T. Vane, C.B.E. (Managing Director), presided. He said that the net profit for the year amounted to £201,793, which, however, included interest on British Government investments which stood in the balance sheet at £943,345, as compared with £802,808 at the end of the previous year. During the past trading year orders and production had been rather regular—that meant that there had been slack as well as busy times, which, to some extent, had been due to general prevailing labour conditions. An important factor which had affected them was the Air Ministry's drastic cut of approximately 33 per cent. in the estimates for aero-engine requirements, which resulted in less orders being received by engine manufacturers like themselves. He was, however, pleased that in the Air Estimates for the coming year the estimate for aero-engines had been brought up to approximately the same figure as in 1925, and there was reason to hope that their company would in due course participate in the larger amount of orders to be placed. During last year they were fortunately, successful in securing a fair amount of export business for their aero-engines which assisted them considerably in obtaining the results achieved. It was also encouraging to see that their "Napier" aero-engine was steadily gaining favour in foreign countries. As instances of its efficiency and reliability in the hands of the Royal Air Force he mentioned three long-distance flights carried out last year. The first was the Cairo to Cape Town and back by four Fairey machines fitted with Napier "Lions," which covered a total engine mileage of 56,000; on the second flight two Supermarine flying-boats with twin "Lions" flew from Calshot to Alexandria and back, which meant that the engine mileage was 27,000, and the third flight was carried out from Cairo to Aden and back by two Vickers troop-carriers fitted with "Napiers" which covered a total engine mileage of 18,000, and required no replacement of any kind.

On commercial air lines the "Napier" engine still held its own. Imperial Airways had now flown more than 2½ million miles with the "Napier" engines, and so satisfactory had they proved that not until some 30,000 miles had been covered were they overhauled. It was not only in this country that the "Napier" was popular. A German seaplane competition in August last year was won by the Heinkel Company, of Germany, who had built a seaplane with a "Napier" engine. There were 17 entrants, of which three only passed the tests. The "Heinkel" was the only machine with a "Napier" and it was the only machine to complete the trials without any repairs or penalty marks. At a later date this machine secured two world's records for carrying heavy loads to high altitudes. The chairman then pointed out that the Napier Company would continue their policy of concentrating on the manufacture of aero engines, improve and develop those types already in production, design and produce new types. While they had several developments in hand at the present time, it would be appreciated that the very nature of their work unfortunately precluded him from giving details. The whole character of their production had changed during the past few years, and it was very desirable, in a specialised business like theirs, particularly under prevalent conditions, to maintain a substantial liquid financial reserve. The directors thought the time was now opportune to obtain authority to increase the capital in the way proposed in the report, and if that was done, to capitalise some of their financial reserve by giving the ordinary shareholders one 8 per cent. preference share for each of three ordinary shares held by them. In conclusion, he said that he would like to record the directors' appreciation of the valuable assistance they had received from their staff and employees during the past year, when the busy times had occurred and extra effort was required. The report and accounts were unanimously adopted, and the meeting closed with a vote of thanks to the Chairman.

At a subsequent extraordinary general meeting, resolutions to increase the capital and issue bonus shares to the ordinary shareholders were approved.

Armstrong Whitworth Development Company

At an Extraordinary General Meeting of this company, held at Winchester House, to consider resolutions altering the name to "Armstrong Siddeley Development Co., Ltd.," and making certain alterations in the articles, Mr. J. D. Siddeley, C.B.E., chairman of the company, presided, who during his speech said the company was inaugurated in 1919 in connection with the amalgamation of the motor-car, aircraft engine and aircraft business of the Siddeley Deasy Company with the motor department of Sir W. G. Armstrong Whitworth and Co., Ltd. The Siddeley Deasy Company was an organisation which had expanded very rapidly to a large undertaking during the war due to its manufacture of aircraft engines. The board of directors conducting the affairs of that company, acting upon his (the chairman's) advice, decided

to adopt a cautious policy, and the opportunity of bringing about the amalgamation already mentioned offering itself, it was decided to carry through such an arrangement.

As the assets of their company consisted principally of those coming under the heading of the Armstrong Siddeley activities, the proposed change was suggested in the name of the company. These included Armstrong Siddeley Motors, Ltd., producers of motor-car and carriage work suitable for motor chassis, together with aircraft engines.

In regard to the aircraft engine work, they believed that it was no overstatement to say that it was of some importance to the Air Ministry in view of the orders received from them. These aircraft engines were all air-cooled, and in this direction their experience was unexcelled throughout the world. The wonderful successes of Sir Alan Cobham in his great flight, using the Jaguar engine, were matters of history, and they had also designed and constructed special engines for the War Office, which gave great satisfaction. In addition, they owned the undertaking known as Sir W. G. Armstrong Whitworth Aircraft, Ltd., formed to carry on the aeroplane manufacturing programme of the motor company. The development of this business has followed a successful course, and its designs and methods of manufacture find favour with the Air Ministry, with whom the company's relations are on a sound basis. A special feature of the firm was the use of a construction embodying very thin, but very strong, steel members in place of wood, and in this particular direction they could claim to be the only firm in the world producing aircraft in series based upon such a system, an important matter when it was remembered that the best aircraft would, in future, be of a metallic construction in place of wood. The operations of these different organisations cover an area of about 36 acres of buildings, all in first-class order and of excellent design. In addition, the aircraft company owned a freehold aerodrome of about 156 acres.

The Development Company also owned 250,000 ordinary shares in the undertaking of Crompton and Co., Ltd., the well-known firm of electrical manufacturers. Crompton's works at Chelmsford were already reporting increased orders, particularly for export, and present indications justified the hope of improved results in the near future.

NEW COMPANY REGISTERED

BRISTOL AND WESSEX AEROPLANE CLUB, LTD., Lion Chambers, Broad Street, Bristol.—Capital £100, in £1 shares. Objects indicated by the title. First directors: C. S. Clarke, G. V. Yorke, J. S. K. Inskip.

PUBLICATIONS RECEIVED

Abhandlungen aus dem Aerodynamischen Institut, Aachen. No. 6. Julius Springer, Linkstr. 23-24, Berlin, W.9. Price R.M. 7-50.

Aeronautical Research Committee Reports and Memoranda: No. 1049 (Ae. 235).—The Direct Measurement of the Angle of Flight Path of an Aeroplane as a Means of Eliminating the Effect of Air Currents on the Measurement of Lift and Drag. By E. T. Jones and H. L. Stevens. August, 1926. Price 9d. net. No. 1051 (Ae. 236).—Second Report on Full-Scale Experience with the Slot and Aileron Control Fitted to a Bristol Fighter. By H. L. Stevens. August, 1926. Price 4d. net. H.M. Stationery Office, Kingsway, London, W.C.2.

The Canadian Military Institute: Selected Papers from the Transactions of the Institute, 1925-26. No. 24. Canadian Military Institute, Toronto, Canada.

Aeronautical Research Committee Reports and Memoranda: No. 1041 (A.3).—Accidents to Aeroplanes Involving Flutter of the Wings. Report of the Accidents Investigation Subcommittee. December, 1925. Price 1s. 3d. net. No. 1045 (E.21).—On the Equivalence between the Dynamical System of a Multi-Crank Flywheel System and a Certain Electrical Circuit, with Some Suggestions for Measuring Critical Speeds and Shaft Stresses by Analogy. By E. B. Moullin. April, 1926. Price 9d. net. H.M. Stationery Office, Kingsway, London, W.C.2.

Calendar, 1927.—Petters, Ltd., Yeovil.

AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

APPLIED FOR IN 1925

Published March 24, 1927

26,697. A. HALL-BROWN. Supercharging of i.c. engines. (266,413.)
30,110. I. VAN HONACKER. Propulsion device for aircraft, etc. (266,467.)

APPLIED FOR IN 1926

Published March 24, 1927

9,164. G. E. HOLMES. Elastic shock-absorbers. (266,554.)

FLIGHT,

The Aircraft Engineer and Airships

36, GREAT QUEEN STREET, KINGSWAY, W.C.2

Telephone: Gerrard 1828.

Telegraphic address: Truditur, Westcent, London.

"FLIGHT" SUBSCRIPTION RATES

UNITED KINGDOM			ABROAD*		
	s.	d.		s.	d.
3 Months, Post Free..	7	7	3 Months, Post Free ..	8	3
6 " " "	15	2	6 " " "	16	6
12 " " "	30	4	12 " " "	33	0

* Foreign subscriptions must be remitted in British currency.

Cheques and Post Office Orders should be made payable to the Proprietors of "FLIGHT," and crossed Westminster Bank.